COMPLETE LISTING OF CLAIMS IN ASCENDING ORDER WITH STATUS INDICATOR

Please rewrite the claims as set forth below.

Claims 1, 11, 18, 25 and 26 have been amended. New claims 34 - 45 have been added, and no claims have been cancelled.

CLAIMS

1. (Currently Amended) An activated modular grafted polymeric surface ~~adapted to support an active species for a reaction~~ comprised of:

one or more modular physical units comprised of a first polymer or derivative, blend or co-polymer thereof,

a second polymer grafted to the first polymer by graft polymerization, and

at least one activating moiety bound to the second polymer.

2. (Withdrawn) The activated modular grafted polymeric surface according to claim 1, wherein the polymer is a co-polymer of polyethylene and polypropylene (PMA) or a modified branched polyolefin.

3. (Withdrawn) The activated modular grafted polymeric surface according to claim 2, wherein the polymer is a modified branched polyolefin, or a derivative, blend or copolymer thereof, modified by graft polymerization.

4. (Withdrawn) The activated modular grafted polymeric surface according to claim 3, wherein the branched polyolefin is a polyalkylalkene.

5. (Withdrawn) The activated modular grafted polymeric surface according to claim 3, wherein the polyalkylalkene is a poly-(4-methylpentene-1).

6. (Original) The activated modular grafted polymeric surface according to claim 1, wherein the graft polymerization is gamma-irradiation graft polymerization, ozone-induced

graft polymerization, plasma-induced graft polymerization, UV-initiated graft polymerization or chemical-initiated graft polymerization.

7. (Withdrawn) The activated modular grafted polymeric surface according to claim 3, wherein the graft polymer is selected from the group consisting of polyvinyls, polyvinylalchols, polyacrylates, polymethacrylates, polyacrylamides, polyethylkene glycols, polylactic acids, and derivatives, blends and copolymers thereof.

8. (Withdrawn) The activated modular grafted polymeric surface according to claim 7, wherein the graft polymer is polystyrene.

9. (Withdrawn) The activated modular grafted polymeric surface according to claim 7, wherein the graft polymer is a polyvinylalcohol.

10. (Withdrawn) The activated modular grafted polymeric surface according to claim 7, wherein the graft polymer is polyacrylic acid.

11. (Currently Amended) The activated modular grafted polymeric surface according to claim 1, wherein a reagent selected from the group consisting of triphenylphosphine, a reductant, an oxidant, a chelating metal, a scavenger, a catalyst, and a protein affinity capture agent is bound to the second polymer ~~grafted polymeric surface selected from the group consisting of triphenylphosphine, a reductant, an oxidant, a chelating metal, a scavenger, and a catalyst.~~.

12. (Original) The activated modular grafted polymeric surface according to claim 11, wherein the chelating metal is nickel or calcium.

13. (Withdrawn) The activated modular grafted polymeric surface according to claim 11, wherein the scavenger is a nucleophilic group.

14. (Withdrawn) The activated modular grafted polymeric surface according to claim 13, wherein the nucleophilic group is aminomethyl or hydrazino.

15. (Withdrawn) The activated modular grafted polymeric surface according to claim 11, wherein the scavenger is an electrophilic group.

16. (Withdrawn) The activated modular grafted polymeric surface according to claim 15, wherein the electrophilic group is isocyanate, tosyl chloride, or benzaldehyde.

17. (Withdrawn) The activated modular grafted polymeric surface according to claim 11, wherein the catalyst is dimethylaminopyridine.

18. (Currently Amended) The activated modular grafted polymeric surface according to claim 11, wherein the second polymer ~~the graft~~ is polyacrylic acid and the reagent is a chelating metal.

19. (Withdrawn) The activated modular grafted polymeric surface according to claim 1, wherein the activating moiety is aldehyde, carboxylate, amino, hydroxide, biotin, thiol, tosyl acid, tosyl chloride, hydrazino, or isocyanate.

20. (Withdrawn) The activated modular grafted polymeric surface according to claim 19, wherein the activating moiety is aldehyde.

21. (Original) The activated modular grafted polymeric surface according to claim 1, wherein one or more spacer sequences, which may be the same or different, is present between the activating moiety and the grafted polymer.

22. (Withdrawn) The activated modular grafted polymeric surface according to claim 19, wherein one or more spacer sequences, which may be the same or different, is present between the aldehyde and the grafted polymer.

23. (Withdrawn) The activated modular grafted polymeric surface acording to claim 1, wherein the reagent has one of the structures set out in Table 1.

24. (Previously Presented) An activated modular grafted polymeric surface selected from the group consisting of:

(a) a benzaldehyde polystyrene lantern;

(b) a benzaldehyde polystyrene lantern, coupled to streptavidin or horseradish peroxidase; and

(c) a nickel-chelating polyacrylic acid gear.

25. (Currently Amended) The activated modular grafted polymeric surface according to claim 1, wherein the at least one activating moiety ~~reagent~~ is capable of binding an amine compound capable of Schiff base formation.

26. (Currently Amended) The activated modular grafted polymeric surface according to claim 25, ~~wherein~~ further comprised of an ~~the~~ amine compound that is a biotinylated molecule, a protein, a peptide, a lectin, an oligonucleotide, a sugar or an enzyme.

27. (Original) The activated modular grafted polymeric surface according to claim 26, wherein the biotinylated molecule is a peptide, protein, oligonucleotide, lipid or sugar.

28. (Original) The activated modular grafted polymeric surface according to claim 26, wherein the protein is streptavidin.

29. (Original) The activated modular grafted polymeric surface according to claim 26, wherein the enzyme is horseradish peroxidase.

30. (Withdrawn) A method of affinity capture, presentation or preparation of a biomolecule, comprising the step of exposing the biomolecule or a porecursor thereof to an activated modular grafted polymeric surface according to claim 1.

31. (Withdrawn) The method according to claim 30, wherein the biomolecule is selected from the group consisting of proteins, oligonucleotides, nucleic acids, peptides, and lectins.

32. (Withdrawn) The activated modular grafted polymeric surface according to claim 1, in a modular three-dimensional form.

33. (Withdrawn) The grafted polymeric surface according to claim 32, wherein the modular three-dimensional form is a lantern, crown, gear, pin, puck, disc, bead, microtitre plate or sheet.

34. (New) An activated modular grafted polymeric surface for use in affinity enrichment or depletion of a biomolecule from a biological mixture comprised of:

one or more modular physical units comprised of a first polymer or derivative, blend or copolymer thereof,

a second polymer grafted to the first polymer by graft polymerization, and

at least one activating moiety bound to the second polymer.

35. (New) An activated modular grafted polymeric surface comprised of:

one or more modular physical units comprised of a first polymer or derivative, blend or co-polymer thereof, and

a second polymer grafted to the first polymer by graft polymerization,

wherein the second polymer is comprised of at least one activating moiety.

36. (New) The activated modular grafted polymeric surface according to claim 35, wherein the graft polymerization is gamma-irradiation graft polymerization, ozone-induced graft polymerization, plasma-induced graft polymerization, UV-initiated graft polymerization or chemical-initiated graft polymerization.

37. (New) The activated modular grafted polymeric surface according to claim 35, wherein a reagent selected from the group consisting of triphenylphosphine, a reductant, an

oxidant, a chelating metal, a scavenger, a catalyst, and a protein affinity capture agent is bound to the second polymer.

38. (New) The activated modular grafted polymeric surface according to claim 37, wherein the chelating metal is nickel or calcium.

39. (New) The activated modular grafted polymeric surface according to claim 37, wherein the second polymer is polyacrylic acid and the reagent is a chelating metal.

40. (New) The activated modular grafted polymeric surface according to claim 35, wherein the at least one activating moiety is capable of binding an amine compound capable of Schiff base formation.

41. (New) The activated modular grafted polymeric surface according to claim 40, further comprised of an amine compound that is a biotinylated molecule, a protein, a peptide, a lectin, an oligonucleotide, a sugar or an enzyme.

42. (New) The activated modular grafted polymeric surface according to claim 41, wherein the biotinylated molecule is a peptide, protein, oligonucleotide, lipid or sugar.

43. (New) The activated modular grafted polymeric surface according to claim 41, wherein the protein is streptavidin.

44. (New) The activated modular grafted polymeric surface according to claim 41, wherein the enzyme is horseradish peroxidase.

45. (New) An activated modular grafted polymeric surface for use in affinity enrichment or depletion of a biomolecule from a biological mixture comprised of:

one or more modular physical units comprised of a first polymer or derivative, blend or copolymer thereof, and

a second polymer grafted to the first polymer by graft polymerization,

wherein the second polymer is comprised of at least one activating moiety.